

I claim:

1. A fiber optic cable, comprising:
an outer layer;
at least one optical fiber disposed inside said outer layer; and
a gel-swellable portion and water resistant gel positioned adjacent to each other and
disposed between said outer layer and said optical fiber;
wherein said gel-swellable portion absorbs at least some of said gel.

2. The fiber optic cable according to claim 1, wherein said gel-swellable portion
is a continuous layer surrounding said at least one optical fiber.

3. The fiber optic cable according to claim 2, wherein said continuous layer has
an uneven thickness.

4. The fiber optic cable according to claim 1, wherein said at least one gel
swellable portion has a smooth surface.

5. The fiber optic cable according to claim 1, wherein said at least one gel-
swellable portion is adhered to an outer surface of said at least one optical fiber.

6. The fiber optic cable according to claim 1, wherein said at least one gel-
swellable portion is adhered to an inner surface of said outer layer.

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7. The fiber optic cable according to claim 1, wherein said at least one gel-swellable portion extends longitudinally along the length of said at least one optical fiber.

5 8. The fiber optic cable according to claim 1, wherein said at least one gel-swellable portion has an uneven thickness.

9. The fiber optic cable according to claim 1, wherein said gel-swellable portion has a density less than 0.90 g/cc.

10. The fiber optic cable according to claim 1, wherein said gel-swellable portion is one of a copolymer or terpolymer of polyethelene.

11. The fiber optic cable according to claim 1, wherein said gel-swellable portion swells more than 10% at 85°C.

12. The fiber optic cable according to claim 1, wherein said gel is a polyolefin oil based gel.

20 13. The fiber optic cable according to claim 1, wherein said gel-swellable portion is a polyolefin swellable material.

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14. The fiber optic cable according to claim 1, wherein said gel-swellable portion is softer than said outer layer.

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15. A fiber optic cable, comprising:

an outer layer;

at least one optical fiber ribbon disposed inside said outer layer; and

a gel-swellable layer and a water resistant gel positioned adjacent to each other and disposed between said outer layer and said ribbon;

wherein said gel swellable layer absorbs at least some of a said gel.

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16. The fiber optic cable according to claim 15, wherein said gel-swellable portion is a continuous layer surrounding said at least one ribbon.

17. The fiber optic cable according to claim 16, wherein said continuous layer has an uneven thickness.

18. The fiber optic cable according to claim 15, wherein said at least one gel swellable portion has a smooth surface.

20 19. The fiber optic cable according to claim 15, wherein said at least one gel-swellable portion is secured to an outer surface of said at least one ribbon.

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20. The fiber optic cable according to claim 15, wherein said at least one gel-swellable portion is secured to an inner surface of said outer layer.

21. The fiber optic cable according to claim 15, wherein said at least one gel-5 swellable portion extends longitudinally along the length of said at least one ribbon.

22. The fiber optic cable according to claim 15, wherein said at least one gel-swellable portion has an uneven thickness.

23. The fiber optic cable according to claim 15, wherein said gel-swellable layer has a density less than 0.90 g/cc.

24. The fiber optic cable according to claim 15, wherein said gel-swellable layer is one of a copolymer or terpolymer of polyethylene.

25. The fiber optic cable according to claim 1, wherein said gel-swellable layer swells more than 10% at 85°C.

26. The fiber optic cable according to claim 15, wherein said gel is a polyolefin oil 20 based gel.

27. The fiber optic cable according to claim 15, wherein said gel-swellable layer is a polyolefin swellable material.

28. The fiber optic cable according to claim 15, wherein said gel-swellable portion is softer than said outer layer.

5 Sub A3 29. A fiber optic cable, comprising:

an outer layer, having at least one gel-swellable portion adhered to an inside surface of said outer layer;
at least one optical fiber; and
a water resistant gel disposed between said at least one optical fiber and said outer layer;
wherein said gel-swellable portion absorbs at least some of said gel.

10 Sub B3 30. The fiber optic cable according to claim 29, wherein said gel-swellable portion is a continuous layer on said inner surface of said outer layer.

15 Sub C3 31. The fiber optic cable according to claim 30, wherein said continuous layer has an uneven thickness.

20 32. The fiber optic cable according to claim 29, wherein said at least one gel-swellable portion has a smooth surface.

33. The fiber optic cable according to claim 29, further comprising at least one other gel-swellable portion adhered to an outer surface of said at least one optical fiber.

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34. The fiber optic cable according to claim 29, wherein said at least one gel-swellable portion extends longitudinally along the length of said outer layer.

5 35. The fiber optic cable according to claim 29, wherein said at least one gel-swellable portion has an uneven thickness.

36. The fiber optic cable according to claim 29, wherein said gel-swellable portion has a density less than 0.90 g/cc.

37. The fiber optic cable according to claim 29, wherein said gel-swellable portion is one of a copolymer or terpolymer of polyethelene.

38. The fiber optic cable according to claim 29, wherein said gel-swellable portion swells more than 10% at 85°C.

39. The fiber optic cable according to claim 29, wherein said gel is a polyolefin oil based gel.

20 40. The fiber optic cable according to claim 29, wherein said gel-swellable portion is a polyolefin swellable material.

41. The fiber optic cable according to claim 29, wherein said gel-swellable portion
is softer than said outer layer.

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